Complete Summary

GUIDELINE TITLE

Guidelines for the prevention of falls in people over 65.

BIBLIOGRAPHIC SOURCE(S)

Feder G, Cryer C, Donovan S, Carter Y. Guidelines for the prevention of falls in people over 65. The Guidelines' Development Group. BMJ 2000 Oct 21;321(7267):1007-11. [33 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Falls
- Injurious Falls

GUIDELINE CATEGORY

Prevention
Risk Assessment

CLINICAL SPECIALTY

Emergency Medicine
Geriatrics
Nursing
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Nurses
Occupational Therapists
Physician Assistants
Physicians
Social Workers

GUIDELINE OBJECTIVE(S)

To translate trial evidence about prevention of falls into recommendations that can be implemented in different settings, with the aim of reducing the rate of falls and injurious falls in people over 65.

TARGET POPULATION

- Ambulant people in the United Kingdom aged 65 years and older living either at home, in a residential home, or in a nursing home.

These Guidelines are not intended for use in the following patients:

- Patients in the hospital
- Bedbound individuals
- Patients with severe dementia
- Patients that fall as a consequence of sudden onset of paralysis, epileptic seizure, or overwhelming external force

INTERVENTIONS AND PRACTICES CONSIDERED

Fall Prevention

1. Exercise interventions (for example, Tai-chi, individualized exercise programs)
2. Multifaceted interventions (addressing postural hypotension, number of drugs, balance, transfers, gait)
3. Education: ways to reduce risk
4. Referral to client's physician for older person's assessed to be at risk
5. Follow-up with medical and occupational therapy and interdisciplinary management (for patients who have accessed accident and emergency services)
6. Hip protectors (for residents of nursing homes)
7. Individualized treatment plans (for residents of nursing homes who have fallen)
8. Staff education (in nursing homes)

MAJOR OUTCOMES CONSIDERED

- Rate of falls
- Rate of injurious falls

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer updated two previous systematic reviews to include any new evidence published through March 1998. They conducted electronic database searches via Medline (U.S. National Library of Medicine [NLM]) to identify all randomized controlled trials and systematic reviews using the following search terms: "fall(s)" "accidental falls" "fracture" "elderly" "aged" "older" and "senior." In addition, the guideline developers followed relevant references in papers, and they contacted researchers in prevention of falls for information about other trial evidence and about studies from journals not cataloged by NLM. For inclusion, studies had to be randomized controlled trials of interventions designed to minimize or prevent exposure to the risk factors for falling (or fracture) in people aged 65 years or over living in either community or residential care. Outcomes had to include the number of falls or fractures. The guideline developer excluded drug or dietary treatments for the prevention of fractures.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Trials that fulfilled the inclusion criteria were reviewed and summarized by one of three reviewers. Evidence statements were drafted for each type of intervention. The guideline developers assigned a methodology quality score to the trials according to the criteria used for the relevant Cochrane review, with the addition of sample size. Evidence statements were graded according to the quality score and sample size. The grade of evidence was based on three categories originally developed for the national guidelines for acute back pain.

Evidence weighting:

A. Consistent findings in multiple randomised controlled trials or a meta-analysis
B. Single randomised controlled trial or weak inconsistent findings in multiple randomised controlled trials
C. Limited scientific evidence, cohort studies, flawed randomised controlled trials, panel consensus

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Data from four studies were pooled in a Cochrane review. A preplanned meta-analysis of three published trials on exercise and unpublished data from four other trials in the Frail and Injuries: Cooperative Studies of Intervention Techniques Group was included. Another Cochrane systematic review on an unpublished trial of a review of drugs and assessment and advice about environmental hazards is included.

Trials that fulfilled the inclusion criteria were reviewed and summarized by one of three reviewers. Evidence statements were drafted for each type of intervention. The guideline developers assigned a methodology quality score to the trials according to the criteria used for the relevant Cochrane review, with the addition of sample size. Evidence statements were graded according to the quality score and sample size.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Recommendations were made and graded by the development group, incorporating the strength of evidence with the additional considerations of applicability to, and feasibility within, health and social care in the United Kingdom. A recommendation can have a lower but not higher grade than the linked evidence statement.

A multidisciplinary development group met to discuss the scope of the guidelines and the evidence review, to consider subsequently evidence summaries and possible recommendations, and to review final recommendations in the light of reviewers' comments.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grading of recommendations:

***Directly based on grade A evidence.
**Directly based on grade B evidence or extrapolated recommendations from grade A evidence.
*Directly based on grade C evidence or extrapolated from grade A or grade B evidence.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Clinical Validation-Pilot Testing
Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The multidisciplinary development group reviewed the recommendations in light of reviewers' comments. The absence of a physiotherapist or exercise specialist in the development group was partly mitigated by their inclusion among the reviewers.

To test the applicability of the guidelines to potential users and their feasibility in different care settings, the guideline developers piloted them in two general practices, a residential home, and a general hospital. Changes were made to the presentation of the guidelines after the pilot.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The evidence weighting (A-C) and the grading of recommendations (***, **, *) are repeated at the end of the Major Recommendations.

Excerpted by the National Guideline Clearinghouse (NGC)

Exercise interventions alone

Evidence statements

Unselected groups: most exercise programs without other interventions do not reduce the incidence of falls in unselected older people living in the community. (Evidence weighting A)

Selected group (women over 80): individually tailored exercise programs administered by a qualified professional reduce the incidence of falls in a selected high risk group living in the community. (B)

Selected group (mild deficits in strength and balance): exercise programs reduce the risk of falls in a selected group of older people living in the community. (C)

Balance training: T'ai chi classes with individual tuition can reduce the number of falls in older people. (B)

Recommendations

Unselected groups: with the possible exception of training in balance (t'ai chi), exercise programs for prevention of falls in unselected older people living in the community should not be established. (Grading for recommendations ***)

Selected groups: individually tailored exercise programs administered by qualified professionals targeted at the over 80s should be established. (**) Exercise programs targeted at older people with mild deficits in strength, balance, lower extremity strength, and range of motion should be established. (*)

T'ai chi classes with individual instruction should be offered to unselected older people living in the community. (**)

Multifaceted interventions

Evidence statements

Programs that combine interventions (most studies include some form of exercise) reduce falls. (A)

Specific factors to target: attention to postural hypotension, number of drugs, balance, transfers, and gait is particularly effective. (B)

Recommendations

Prioritize programs for prevention of falls that include more than one intervention. (***)

Specific factors to target: Prioritize correction of postural hypotension, rationalization of drugs where possible, and interventions to improve balance, transfers, and gait. (**)

Assessment in the community

Evidence statements

Home assessment 1: home assessment of disability and education in the risk areas and referral to the patient's doctor reduces falls. (C)

Home assessment 2: home assessment of risk and education in these areas without further referral does not reduce falls. (A)

Accident and emergency assessment: identification of patients who attend accident and emergency departments after falls, with subsequent assessment of medical and occupational therapy and referral and follow up, reduces falls. (B)

Recommendations

Home based interventions: a programme of medical and environmental assessment, with client education about risks and with referrals to relevant healthcare professionals (for example, general practitioners, occupational therapists) should be established. (*)

Accident and emergency departments: a programme of follow up for medical and occupational therapy for older people who have presented at accident and

emergency departments after a fall should be established. A structured interdisciplinary approach to their management should be prioritized. (**)

Residential settings

Evidence statements

All residents: non-selective exercise programs for residents of nursing homes do not reduce falls. (B)

High risk residents: assessment of residents after falls, with development of individual treatment plans and staff education, decreases falls. (B)

Hip protectors: neck of femur fractures are prevented by hip protectors being worn by residents of nursing homes. (B)

Recommendations

All residents: non-selective exercise programs for prevention of falls should not be implemented. (**)

High risk residents: a programme of risk assessment for residents who have had at least one fall, with referral to their primary physician for specific preventive measures if necessary, should be established. (**)

Hip protectors: all residents of nursing homes should be offered hip protectors. (**)

Definitions:

Evidence weighting:

A. Consistent findings in multiple randomised controlled trials or a meta-analysis
B. Single randomised controlled trial or weak inconsistent findings in multiple randomised controlled trials
C. Limited scientific evidence, cohort studies, flawed randomised controlled trials, panel consensus

Grading of recommendations:

***Directly based on grade A evidence.
**Directly based on grade B evidence or extrapolated recommendations from grade A evidence.
*Directly based on grade C evidence or extrapolated from grade A or grade B evidence.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The guideline developers grouped evidence and recommendations by type of intervention and the trial settings in which they were tested: exercise interventions alone, multifaceted interventions, and assessment in the community or a residential setting. The recommendations are based on 21 trials. Where trials can be classified into two groups, they are included in both relevant sections. The type of evidence is identified and graded for each recommendation (see â œMajor Recommendationsâ).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Reducing the rate of falls and injurious falls in people over 65.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- A key methodological problem is the uncertainty of the outcome measures used in most of the trials, as all methods of recording falls have weaknesses. None of the trials included an economic evaluation, although if reduction in falls also results in fewer injurious falls and fractures, then prevention of falls is likely to be cost effective because of the high costs of hospital care. The trial reports rarely have sufficient information about either the characteristics of the sample or the characteristics of the local population and service context in which they took place. It is not clear which components of the multifaceted interventions that were successful are essential, including exercise.
- The guidelines rely on trials outside the United Kingdom. Furthermore, there are no pragmatic trials testing the implementation of a multifaceted programme for prevention of falls across the diverse agencies that need to be involved: primary and secondary health care as well as social and environmental health services.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Feder G, Cryer C, Donovan S, Carter Y. Guidelines for the prevention of falls in people over 65. The Guidelines' Development Group. BMJ 2000 Oct 21;321(7267):1007-11. [33 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2000 Oct 21

GUIDELINE DEVELOPER(S)

Barts and the London, Queen Mary's School of Medicine and Dentistry - Academic Institution

SOURCE(S) OF FUNDING

Department of Health (England)

GUIDELINE COMMITTEE

Guidelines Development Group

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Members of the development group: Yvonne Carter (general practitioner), Vincent Croft (social work senior practitioner), Colin Cryer (falls prevention researcher), Sheila Donovan (guidelines facilitator), Gene Feder (general practitioner and chair of the group), Janet Flaherty (district nurse), Anthea Lehmann (care of the elderly physician), Jennie Negus (community nurse manager), and Noushine Nozari (occupational therapist). The external referees were Alison Allen (public health

nurse for the elderly, East Kent Community NHS Trust), Jacqueline Close (care of the elderly physician and falls researcher, King's College School of Medicine and Dentistry), Steve Iliffe (primary care researcher and general practitioner, Royal Free and University College London Schools of Medicine, London), Janet Simpson (falls researcher, St George's Hospital Medical School, London), and Dawn Skelton (exercise physiologist, Imperial College School of Medicine, St Mary's Hospital, London).

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Competing interests: None declared.

GUIDELINE STATUS

This is the current release of the guideline.

An update is not in progress at this time.

GUIDELINE AVAILABILITY

Electronic copies: Available from the British Medical Journal (bmj.com). The document is also available in Portable Document Format (PDF).

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Feder G, Cryer C, Donovan S, Owen N, Carter Y. Development of guidelines for the prevention of falls in older people. Report to the Department of Health (UK) (Health Promotion Division). United Kingdom: Queen Mary and Westfield College/South East Institute for Public Health, Broomhill House, 1998. 19 p.

Electronic copies: Not available at this time.

Print copies: Available from the Department of General Practice and Primary Care, Queen Mary and Westfield College, Mile End Road, London E1 4NS, United Kingdom.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on February 6, 2001. The information was verified by the guideline developer as of March 13, 2001.

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